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ABSTRACT

Making schools more productive is an overriding concern among education stakeholders. Strategies for making schools more productive are offered in this report. The articles discuss ways in which schools can boost student achievement, improve professional community among staff, and spark creative use of resources when money is scarce. The opening essay asks what it means to be a productive school and draws on a case study to illustrate its points. The overarching concept of educational productivity is explored, along with some of the current scholarship and obstacles to achieving productive schools, followed by an analysis of why productivity is worthy of attention. Four leaders in educational reform offer their reflections on the concept of educational productivity from their differing perspectives, research, and experience in the educational reform and restructuring movement: Allan Odden on the need for clear plans; Lawrence O. Picus on building on the strength of teachers; Fred M. Newmann on success, not productivity; and Roland S. Barth on productive school renewal. An interview with Philip Hallinger about key findings from his synthesis of research on school effectiveness, a bibliography on educational productivity, and a list of descriptive characteristics of productive schools are provided. (RJM)

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New LEADERS
FOR TOMORROW'S SCHOOLS

Productive Schools: Perspectives From Research and Practice

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ISSUE HIGHLIGHTS:

Making Schools Productive	2
Four Views of Educational Productivity	9
Allan Odden	9
Lawrence O. Picus	14
Fred M. Newmann	19
Roland S. Barth	24
The Changing Role of Principals: An Interview With Philip Hallinger	30
Bibliography	33
Reflecting on Current Practices: Preliminary Characteristics of Productive Schools	34

In this issue, we focus on the broad question: How can schools be more productive? In our discussion, we seek to discover specific ways in which schools can boost student achievement, improve professional community among staff, and spark creative use of resources when money is scarce and needs are many.

In our opening essay, we tackle the question: What does it mean to be a productive school? Next, we discuss the overarching concept of educational productivity, explain why it is worthy of attention, summarize current related scholarship, and highlight obstacles to achieving productive schools—as well as some well-considered strategies to overcome those barriers.

We then turn to four leaders in educational reform: Allan Odden, Lawrence O. Picus, Fred M. Newmann, and Roland S. Barth, asking each to reflect on the concept of educational productivity from their differing perspectives, research, and experience in the educational reform and restructuring movement.

As a special update on leadership and the role of principals in restructuring and reform, we interview Philip Hallinger about key findings from his synthesis of research on school effectiveness.

To guide you to the extensive literature on educational productivity, we provide a bibliography on the topic. Finally, we conclude with a list of descriptive characteristics of productive schools. This list is designed to help school leaders assess the current productivity of their schools.

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Making Schools Productive

Anne Turnbaugh Lockwood

What do we mean by a "productive" school? Why is educational productivity worth scrutiny? What distinguishes productive schools from unproductive schools? What strategies promote productivity—and boost overall school restructuring and reform? Finally, at a time when many pressing concerns confront educators, why should productivity be foremost on their agendas and the legislative slates of educational policymakers?

In this essay, we define educational productivity, explain its importance within the current context of restructuring and reform, summarize current views and scholarship on this important topic, and define obstacles to productivity that must be overcome. Our focus on productivity stems from its emergence as a substantive theme in school restructuring, its emphasis on raising student achievement using existing resources, its acknowledgment of the current economic picture, and its hopeful message that schools can employ strategies to boost student achievement through reconfiguration of existing resources.

Educationally Unproductive: The Case of Paul Revere High School

First, however, to ground the concept of educational productivity in practice, we visit a fictitious school that we call Paul Revere High School. Although this is a stereotypical school in many ways, its practices represent a composite of several schools; not all practices may be present in any one school simultaneously.

Paul Revere High School is one of five high schools in a school district that serves a mid-sized city in the northeastern United States. The community is a mix of factory workers from the local textile mills, university professors and staff from a local state university, and health care workers at a major medical center that serves the region. Revere's student population numbers approximately 1,400. The majority are white (73 percent), with 10 percent African American and 17 percent Asian. The school's Asian population continues to grow as families arrive from southeast Asia to work in the textile mills. Many, if not most, of their children are not fluent in English.

Revere's principal, Jim Stanton, believes in educational reform, but views much of it as a passing trend that he must endure before, as he says, "things settle down again." A veteran administrator, he has been Revere's principal since 1988. Prior to that he was its assistant principal for eight years. Much of Stanton's attitudes and dealings with staff are based on tradition and on what his predecessor did. He believes it is important to be visible to his staff and conscientiously devotes a period of time each day to walk the halls and visit the cafeteria. If asked what his primary role is, he would say he is the school's instructional leader and chief manager.

Yet as chief manager, Stanton's access to and knowledge of disaggregated financial data on resources allocated to Revere is woefully inadequate. For instance, although outside consultants are engaged to do one-day or half-day inservices for Revere's staff, Stanton has no idea how much they are paid, nor does he know how much Revere spends on substitute teachers per year. The central office maintains aggregated budget data, and thus far he has not found it worth the effort to pester district officials for a school-by-school breakdown of expenses.

Stanton and his staff are united in one overarching belief: The resources allocated to their school are not nearly enough to maintain the program that they have—a program typical of most comprehensive high schools—let alone expand it. They also agree that the program they have is not sufficient.

Many teachers believe that honors programming should be expanded because of the number of vocal and assertive university professors and physicians who send their children to Revere. These parents demand special programming for their children so that they will achieve admission to a prestigious college or university after graduation. Currently, honors programming and advanced placement classes remain a top priority for the school.

Resources allocated to needs perceived as pressing by Revere staff do not seem sufficient. A meagre two FTEs—supplemented by roving aides assigned to work districtwide in a number of schools—teach ESL and bilingual education at the school. Most staff agree that this is hardly adequate for approximately 238 students at varying levels of English-language proficiency.

The majority of Revere's staff have been at the school for a number of years. Like Jim Stanton, they have seen educational innovations come and go. Currently their district is developing performance standards, but without a cohesive program that builds in teacher input. If questioned, many teachers would state that an emphasis on standards will occupy district staff for a few years before they move on to something else.

Most teachers at Revere believe in a tracked curriculum because they see no other way to teach diverse groups of students. Although they may be uneasy about the equity aspects of tracking, they cannot imagine changing their instruction to accommodate widely varying heterogeneous groups. The honors program is sacrosanct. Traditional teaching methods, based on didactic instruction with a minimum of student discussion, are the norm. Revere's teachers believe in cooperative learning, except that their version of it is to divide students into groups where frequently they fill out worksheets based on the teacher's lecture. Particularly in lower-track classes, there is an emphasis on keeping order and busying students with seatwork.

Staff development is sporadic and usually devoted to half-day workshops or one-day sessions with an outside "expert" promoting a specific and often tightly scripted program. Typical offerings for one year range from a half-day inservice on multicultural education to a two-hour workshop on conflict resolution. Workshop topics have little connection with each other. There is no followup once the sessions conclude. When teachers are evaluated, their skill at applying new concepts gleaned from professional development is not assessed.

Teachers have little schoolwide interaction specifically related to instruction or planning of curriculum, although they do engage in departmental curriculum-planning activities together. The time they spend in the teachers' lounge and lunchroom is jealously guarded as time off-task. Occasionally teachers discuss "problem" students, making sure that their colleagues are alerted before difficult students enter one of their classes.

Yet Revere's teachers care about the school's students. They believe they are hampered in their work because of a lack of resources, and they especially resent the unknown sums spent on one-day inservices by outside consultants that have little lasting impact. Another source of irritation stems from what they view as the huge needs of the changing student population. An increasing proportion of students come from nontraditional, two-parent households; an ever-growing number are non-English speakers; and there is a wide range in students' income level and the quality of experiences they receive outside school. Most teachers believe that the varying needs of this student population are far beyond the school's scope—and that the school is called upon to do far more than it can. When it cannot deliver, the teachers believe they are blamed. Increasingly they are alarmed by outbreaks of violence within the school, by what they see as a decline in youth values, and by a surge in the rate of teen pregnancies. Many fear for their personal safety, and some even question their choice of teaching as an occupation.

Although stereotypical, Paul Revere High School is certainly not unusual. Teachers want to see students succeed, but see little or no way to stretch familiar, unquestioned pedagogical strategies to accommodate the growing diversity of the student population. Tradition governs the school, from the way in which instruction is conducted to the choice of materials to the status quo of differentiated classes to the principal's leadership style. Teachers and principal alike are relatively powerless when it comes to decisions about how resources will be spent—and although they are aware of such innovations as site-based management, they believe "it can't happen here."

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Not surprisingly, student achievement reveals unimaginative instructional and curricular strategies as well as sagging staff morale. The performance of minority students is especially disturbing. With few exceptions, the performance of African-American and Hispanic students lags behind that of their white, middle-class peers and reflects the differentiated, tracked curriculum.

Although Revere's staff agrees that student achievement is important, a multitude of other matters demand their day-to-day attention. Improved student achievement is a goal that central office staff talks about at school board meetings, but it is usually not the topic at faculty meetings, where the discussion is dominated by the lack of staff parking spaces, the need for computers, and a host of other, seemingly more urgent matters. Some teachers, when pressed, will admit that they believe in a natural bell curve: some students will do better than others. Therefore, they maintain, it is beyond the school's purview to effect much improvement in student achievement.

Researchers who specialize in school finance and educational productivity adamantly disagree, pointing to factors well within a school's capability to improve student achievement. They emphasize that we live in a time when additional resources for schools are unlikely to be forthcoming (Odden & Clune, 1995), when corporate downsizing has affected the economic prospects of many families, when the number of citizens over the age of 65 has mushroomed, and when competition for scarce resources has intensified. Given these and other factors, they argue that schools need to learn how to do more with the same resources—to reconfigure their resources to achieve an education of quality for all students that results in improved student achievement. But doing more with existing resources does not mean providing more courses or extracurricular offerings. Instead, doing more ties directly to the goal of educational productivity: increasing student achievement.

Educational productivity is usually defined as the relationship between inputs (dollars spent on education) and outputs (student achievement or other defined goals).

What Is Educational Productivity?

Educational productivity is usually defined as the relationship between inputs (dollars spent on education) and outputs (student achievement or other defined goals) (Clune, 1995). However, current conceptions of productivity are broader, taking into account the problem of low student achievement, the scarcity of available resources along with increased competition for those resources, and the need for skilled workers in a high-tech economy.

Why the fresh attention placed on achieving educational productivity? Clune (1995) points to three reasons, including lack of confidence in a relationship between money spent and achievement, an increasing belief in a link between student achievement and economic welfare, and fiscal constraints and concerns about public sector productivity (p. 2). Other factors include lack of public confidence in public schools, a bevy of reports from blue-ribbon panels and commissions about the sorry state of American education, and the current wave of reform, which attempts to "restructure" schools along nonbureaucratic organizational lines, with a firm emphasis on collaboration, consensus building, and teamwork.

The problem central to productivity, or as Clune also calls it, "cost effectiveness" (1995, p. 2), is how to produce higher student achievement with essentially flat resources (Odden & Clune, 1995). In order to achieve this important outcome, Odden and Clune argue that both educational programming and finance will warrant reconfiguration.

Low productivity, according to Odden and Clune (1995, pp. 6-7), stems from poor resource distribution, unimaginative use of money, a failure to focus on results, a focus on services, and practices that drive up costs (adding new programs, reducing teaching loads, and lowering class size). Other reasons for low productivity include

too many or too diffuse goals (Consortium on Productivity in the Schools, 1995), poor preservice training, insufficient professional development or development that is not ongoing and focused, leadership that is top-down and bureaucratic, and an unwillingness to share information.

In contrast, relatively straightforward practices have been identified by researchers that reveal that higher educational achievement is possible. In particular, Odden and Clune (1995) point to increased academic course taking at the secondary level, dramatically altered school management that veers from the hierarchical to the collaborative, specificity of limited performance goals coupled with a comprehensive school improvement plan, and restructured teacher compensation plans (pp. 7-8).

What can schools do to improve student performance without a significant boost in additional resources? A variety of answers and interlocking strategies are recommended by experts in educational productivity. It is important, however, to consider these strategies as complementary pieces of a puzzle rather than as separate and disconnected. Next we present selected key strategies intended to promote educational productivity.

Strategies for Educational Productivity

Make instruction "authentic," related to the goals of the community, geared towards "disciplined inquiry" and solving problems grounded in real-life experiences. Newmann and Wehlage (1995) identify what they call "authentic adult achievement," based on three attributes: the construction of knowledge, disciplined inquiry, and value beyond school (pp. 8-9) as the basis for authentic student achievement. Based on research conducted at the Center on Organization and Restructuring of Schools, they argue that these three criteria can be used to measure student achievement.

Newmann and Wehlage (1995) also emphasize that these benchmarks of authentic achievement run contrary to the conventional curriculum, which emphasizes rote knowledge, drill, seatwork, compliance, and scores on standardized achievement tests.

Develop "authentic pedagogy" to move students to "authentic achievement." Authentic pedagogy, Newmann and Wehlage argue, is based on the standards of "higher order thinking, deep knowledge, substantive conversation, and connections to the world beyond the classroom" (1995, p. 17). This type of instruction emphasizes depth over coverage and what they term "complex cognitive work" (p. 9). Authentic pedagogy is the opposite of traditional, didactic instruction in which students are passive recipients of information delivered in conventional formats such as lectures. Instead, the quality of discourse in the classroom is critical. Students are taught to engage in productive dialogue with teachers and their peers in the classroom. Classwork is connected to the world outside school, so that students do not experience a "disconnect" when they enter the school building.

Corcoran and Goertz (1995) see the goal of high-performance or productive schools as one where the main product is "high-quality instruction" rather than student achievement. They argue that focusing on high-quality instruction as the primary goal of the district forces a set of questions that relate directly to how effectively resources are used to improve the "instructional capacity" of the district (1995, p. 27). They do not see high-quality instruction in isolation from the culture and organization of the school, however, arguing for a collaborative, supportive, and motivating environment (p. 28).

Increase the amount of money spent on professional development to a significant portion of the district's budget (2 to 5 percent at minimum) and where possible, enlist teachers in the selection of professional development. Researchers such as Odden, Clune, and Picus all maintain that a minimum fixed amount of the district or school's budget must be allocated to high-quality professional development (Odden & Clune, 1995; Picus, 1994). This is a fundamental portion of educational productivity, since if teachers will be assessed on their knowledge and skills—rather than on experience and seniority—districts must invest in their ongoing education.

Teachers also need new skills if they are to work effectively in schools that are decentralized, where the authority is collaborative and shared rather than hierarchical and bureaucratic. Ongoing development and schooling in curriculum, pedagogy, and new forms of assessment are all critical components of the type of professional development needed—as are the development of decision-making strategies specifically related to school finance and the reconfiguration of resources.

Limit the number of educational goals and make improvements in student achievement the priority goal. Since a plethora of often-conflicting or confusing goals is one of the causes of low productivity, limited and focused goals boost productivity. Odden (1995) is adamant that schools must narrow their focus to the preeminent goal of heightened student achievement. They must accept that in order to see substantial performance gains, they will have to give up a wide range of programs. Diffuse goals, according to the Consortium on Productivity in the Schools (1995), result in a failure to raise productivity (p. 20). Schools, they maintain, have taken on more goals than they can execute successfully. A streamlined and genuine mission with clear limits is essential if schools are to become productive.

Work with a manageable number of standards for student performance, linking them to the school's focus on heightened student achievement. The current national standards movement, which seeks to define content and performance standards in a broad and frequently overlapping manner—while well-intentioned—overwhelms schools with the sheer number of standards to be mastered. Standards often overlap or conflict with one another—or are deemed too politically volatile for a district. However, these standards can inform the work of districts and states as they shape the standards they will use as benchmarks to examine how well students are achieving.

As can be seen in the recent research of Newmann and Wehlage (1995), Newmann, Secada, and Wehlage (1995), and their colleagues at the Center on Organization and Restructuring of Schools, developing a streamlined, yet complex, set of standards to assess authentic student achievement is more useful than a lengthy list that, in its sheer quantity, becomes useless. The *Standards for Content and Performance* developed by the National Council of Teachers of Mathematics (NCTM) are an exemplar of standards targeted to a content area.

Develop "professional community" among staff so that they engage with one another on collaborative curriculum planning and strategies for improved pedagogy, with opportunities to observe and provide feedback to their peers. According to Newmann and Wehlage (1995), what they term "professional community" is a key component of a successful, productive school and is an aspect of the school's organization that must change from conventionally organized schools that are heavy on bureaucracy and hierarchy. Schools organized around professional community and teacher teams share common goals. Staff work on curriculum planning and assessment activities—and staff take collective responsibility for outcomes or results (Newmann & Wehlage, 1995, p. 30).

A characteristic of communally organized schools is rigorous scrutiny and evaluation of their practice, combined with a norm of continuous improvement that becomes the ethos of the school. In schools that have succeeded in developing professional community, it is safe to take chances and try new pedagogical approaches without fear of condemnation.

Provide schoolwide financial incentives to schools that succeed in meeting targets for improved student achievements, create sanctions for low-performing schools, and revise teacher compensation plans. Although not all researchers agree that financial incentives will achieve increased productivity, some experts in school finance see them as a component of an incentives and sanctions program that provides real accountability for results. Odden (1995) argues for revised teacher compensation, based on knowledge and skills rather than experience and seniority. Performance-based incentives, he maintains, are incompatible with bureaucratically organized systems (1995, p. 2) and are best designed on a schoolwide basis so that teachers are not pitted against each other competitively, as in previous proposals for merit pay that have failed.

Restructured teacher compensation plans work to reinforce systemic reform, rather than a piecemeal approach to school improvement, and are viewed by school finance experts as one piece of a comprehensive plan to encourage productivity. The current work of the National Board for Professional Teaching Standards is an excellent illustration of a measure of teacher performance that could serve as a basis for restructuring teacher pay based on skills and knowledge rather than seniority. Odden (1995) points out that currently some states plan to provide, or are providing, salary increments for teachers certified by the National Board for Professional Teaching Standards.

Focus leadership so that it is collaborative, not hierarchical and bureaucratic. School restructuring advocates and scholars agree that the new style of leadership most effective at boosting student achievement is a collaborative style in which the principal facilitates the conditions under which the teachers can deliver high-quality instruction (Hallinger & Heck, 1996). This flatter organizational structure is also necessary if teacher compensation is restructured along the lines of knowledge and skills rather than experience and seniority. As teacher involvement increases, the principal's role changes from that of a top-down manager to a facilitative, problem-solving, and collegial approach.

Odden and Clune (1995) also point to organizational research that links what they term "high-involvement management"—where teams of people providing services have both the authority to make decisions and are held accountable for the results of their work (p. 7). High-involvement management demands that information is shared rather than the exclusive property of principals and district officials.

Guthrie (1995) also emphasizes that principals rarely have access to disaggregated budget data, which is a major obstacle in the path of productivity. Not only principals need specific information about the resources allocated to their schools. They need to share those data with teachers.

Develop district and state assessment systems that include performance-based assessment. In order for schools to know how well their students are achieving— and how effectively they are raising achievement within the same allocation of resources—they need accurate information about student achievement. How best can they develop accurate measures that will yield this information? Clune (1995) recommends comparing gains "relative to other systems with similar student demographics" (p. 22). The cooperation of states, districts, and the federal government is necessary, he argues, to develop the capacity to engage in this type of data analysis (p. 22). Although performance-based assessments are important to measure what students are learning under high-performance curriculum and instruction, assessments need to be standardized to have much worth in making judgments about resource allocation and distribution with high degrees of validity and reliability.

Newmann and Wehlage (1995) point out that if pedagogy and achievement become truly authentic, assessment must change to measure accurately what students learn. Teachers can construct schoolwide or in-class assessments tailored to the specific content and tasks in which students are engaged.

Invest additional resources in schools that serve high-poverty children or target special amounts to high-poverty children. Clune (1995) recommends investing an average of $10,000 per pupil in high-poverty schools, including $2,000 per pupil of government aid (1995, p. 12). However, he warns that the $10,000 amount is a rough figure and the exact amount should be calculated on a case-by-case basis.

Getting Serious About Productivity

Why should we get serious about educational productivity? Haven't we tried enough ways to improve schools—and doesn't the evidence suggest that many, if not most, of those strategies have met with modest or limited success at best? Why should productivity receive our attention?

Both popular accounts and scholarly reports indicate a rise in public disenchantment with public institutions, a lack of confidence in public education, and a growing sense of pessimism about the future. Many people would agree that we live in troubled times, when the value of human life is superseded by the allure of a new pair of running shoes. Yet doing well in school still holds the promise of a brighter future—and in order to survive in an increasingly competitive society, students and adults alike need new skills that continue exponentially to develop. Unless we abandon all hope that we can effect our own livelihoods, productivity deserves our study, our attention, and our willingness to consider new strategies to improve public schools.

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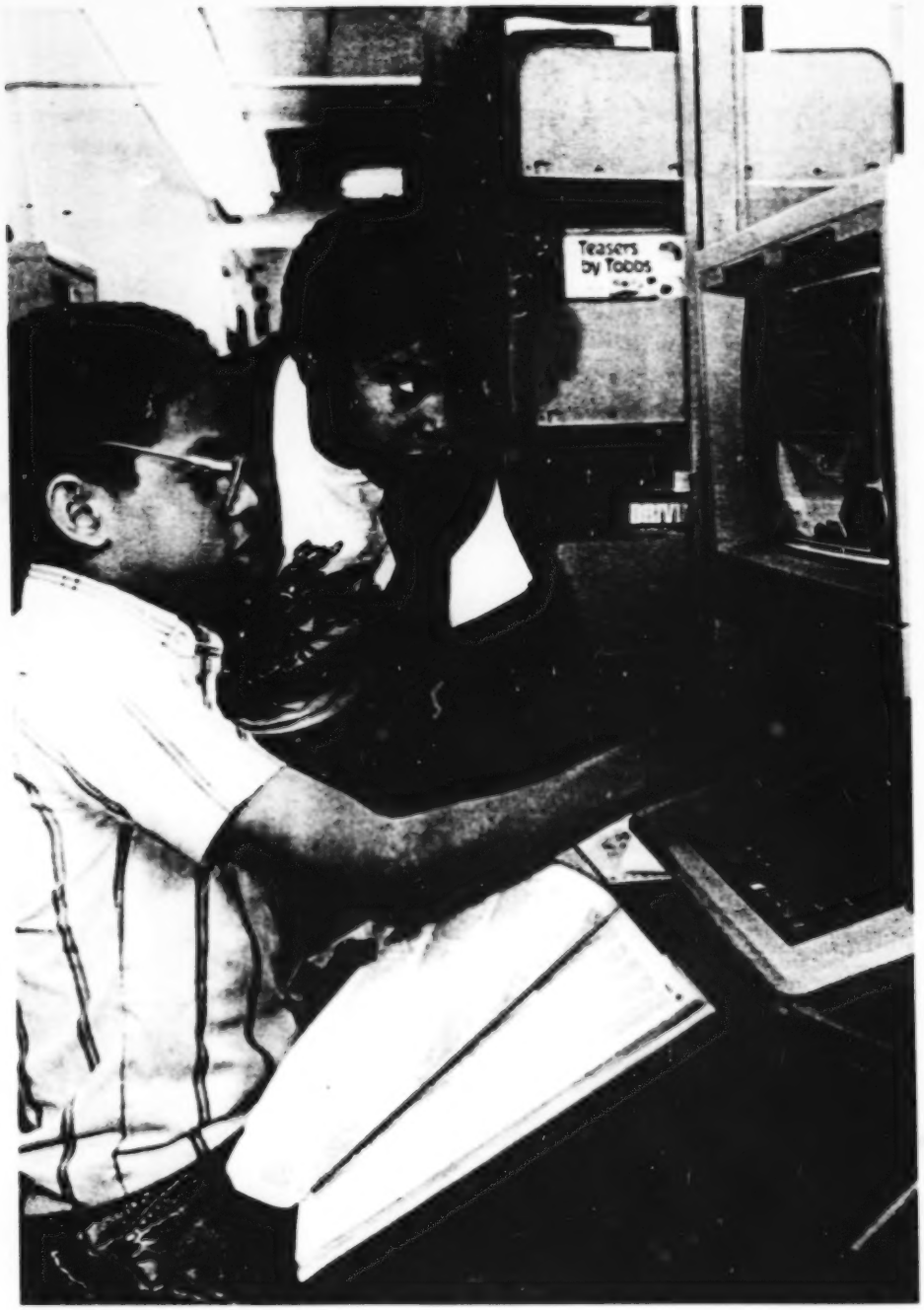

"When we make decisions in schools about how to spend our resources, we need to look carefully at the conditions that affect learning—which means that we must look at the entire social picture."

Lawrence O. Picus

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Four Views of Educational Productivity

Anne Turnbaugh Lockwood

What do key figures in educational productivity and school restructuring think of productive schools? What is a productive school—and how do we recognize one when we see it? What strategies enhance productivity? To what extent does money matter? In what ways can school staff work imaginatively with existing resources? How useful are current analogies between business and education? We asked these and other questions of four individuals, each with differing, yet complementary, visions of productivity: Allan Odden, Lawrence O. Picus, Fred M. Newmann, and Roland S. Barth. In the interviews that follow, we share their diverse views on this critical topic.

Allan Odden: Clear Plans Yield Productive Results

"How does the concept of productivity relate to educational reform?"

If we are serious about reforming education, Allan Odden believes, the key to significant change can be found in an examination of educational productivity—particularly a continuous and careful evaluation of what resources are invested and what results they generate. Getting serious about educational productivity demands dramatically increased attention to student achievement, to policies that will spur increased achievement, and to incentives and sanctions that will bring about desired goals.

What exactly is educational productivity? What does it mean to be a productive school? How does productivity connect to education?

"The classic definition of educational productivity," Odden begins, "is the amount of growth or outcome per resources of dollars spent. The school system that is characterized by an increase in productivity is one where achievement increases faster than resources per pupil increase."

Productivity and standards-based reform are inextricably linked, he says. "Currently about 20 to 25 percent of our students achieve at a level that we want, but standards-based reform articulates that we want to triple or quadruple that type of achievement."

Conventional wisdom suggests that tripling or quadrupling achievement in the absence of corresponding leaps in resources could be a daunting, even hopeless task for educators and policymakers. Yet a scenario of flat or minimally increasing resources is one that experts on educational finance—such as Odden—project over the next ten to fifteen years.

"An optimistic scenario would be that we might get 25 percent more money," he notes. "Over the past five years in the 1990s, money per pupil per adjustment has been flat. Given that history, resources may continue to be flat for a while. This clearly means that the only way we can accomplish the goals of education reform is to create a more productive education system."

He adds purposely, "That is why productivity is an issue that needs to be on our agenda. Either we give up on the goals of reform—or we improve the productivity of the system."

Allan Odden is Professor of Educational Administration at the University of Wisconsin—Madison and Co-Director of the Consortium for Policy Research in Education (CPRE), which is funded by the U.S. Department of Education. He is the principal investigator for the CPRE Teacher Compensation project, funded by the Pew Charitable Trusts. An expert on school finance, educational policy, teacher compensation, and school-based management, Odden currently directs research projects on school-based finance and school-based management, and a large national project on reinventing teacher compensation. A widely published author, Odden's most recent book is Educational Leadership for America's Schools *(McGraw Hill, 1995). His next book will be* Teacher Compensation *(Corwin Press, forthcoming, 1996) with Carolyn Kelley.*

Improving Educational Productivity: Specific Strategies for Schools

How can productivity be improved? What specific strategies boost student achievement—without a corresponding leap in resources? How do school staff, already hard-pressed to meet the demands of low-income and special needs students, accommodate to a new, streamlined focus on productivity?

Odden points first to a general, umbrella strategy: scrutinizing how all the resources in the system are used and systematically evaluating whether they actually add value to the system. "Are they producing a discernible impact on student achievement?" he asks. "If they are not, then people need to ask whether the resources could be used better, for different purposes, in ways that will produce an impact on achievement."

This overarching strategy demands strong evaluation from schools and districts, evaluation that scrutinizes the utility of all resources, especially those that are marginal. "If evaluation with respect to student achievement is not done," he adds, "then you cannot answer the productivity question. The priority result of the system should be the education of students. Producing more highly educated students means producing students who can perform at substantial levels, who know and can use mathematics, science, language arts, social studies—and who can write."

Although it would seem that educators would agree, almost uniformly, that producing high student achievement is their preeminent goal, surprisingly, student achievement is not their or policymakers' top priority, he observes. "It is quite amazing that if you asked a random sample of 100 educators or policymakers, you might find 20 or 30 different educational goals, and seldom is achievement in the top ten."

This plethora of educational goals demands huge investments of resources, which then conflict for priority, he notes, contributing to the fragmented approach to instruction common in many schools. Not only do they aid a shotgun approach to educational programming, but they dilute a primary focus on academic achievement.

"If achievement is going to be the priority goal—but people allocate resources for 15 to 20 other goals—it is really difficult to be productive. To be a productive organization, people have to decide what the core goals will be and have to be comfortable knowing that if they concentrate more in one area they may get less of something else."

In addition to evaluating the resources spent and the value they bring to the system, an intricate web of more specific, interlocking strategies help achieve the goal of educational productivity, Odden says. "One strategy is to require that schools spend more time teaching certain subjects, because we know that if kids are not taught certain subjects, they tend not to learn them.

"Science is a good example," he continued. "If all elementary schools were required to teach 45 minutes of science every day—which means considerable additional training for teachers, of course—a student's performance in science should rise dramatically because so many kids do not receive much science instruction in the typical elementary school.

"The high school version of that strategy is to require students to take more academic courses. This was a strategy that grew out of *A Nation at Risk* in the 1980s. There are many studies that show that students who take more academic subjects learn more. It is a simple strategy to understand, it is simple to implement, and it is good for kids."

Odden refers to a policy implemented by the New York City Schools when Raymond Cortines was Chancellor. "They eliminated general math for ninth and tenth graders and made algebra a high school graduation requirement. Sometimes they stretched out the algebra so that they taught it in three or four semesters rather than in two. CPRE research on the effect of this algebra instruction found that students who took algebra rather than general math learned more mathematics. More of those kids ended up taking an academic sequence in mathematics in their high school career. The general math courses were dead-end. So, even a very simple approach in which more rigorous academic content is taught works to a substantial degree."

Another strategy that propels the system toward productivity is related to how the educational system is managed—with emphasis on collaborative leadership rather than a hierarchical or bureaucratic style of management. "Should management be more decentralized in education?" Odden asks. "There is emerging research that suggests that decentralized school-based management is a higher performance strategy than the way schools have been run in the past. Decentralized, high-involvement management is more appropriate for

a function like education, where the workers are educated and where the work is best done collegially in teams."

A third strategy entails casting a critical eye on all educational programming rather than trying to provide a massive smorgasbord of uneven or poor quality. "Schools need to look at all the programs they are trying to implement," Odden observes, "and decide whether the programs work. If they don't work, they need to reallocate those resources to newer strategies. This means that there needs to be a norm of evaluation within the school so that schools do not settle into activities and strategies just because they were used last year—even though they may not have worked last year."

The fourth, and most powerful strategy, is to find high-performance designs that produce impressive levels of student achievement, using them to guide the school's structure, governance, and decisions about curriculum and instruction. "Schools should be restructured around these high-performance designs," he adds, "and that can be done only if the school has decentralized management because the designs vary from school to school—and should vary from school to school."

In particular, Odden recommends Robert Slavin's Success for All, the ATLAS project (a consortium of James Comer, Howard Gardner, Theodore R. Sizer, and the Education Development Corporation), Expeditionary Learning—Outward Bound, and Linda Darling-Hammond's Learner-Centered Schools in New York City *(for a discussion of these reforms, see New Leaders for Tomorrow's Schools, Issue 2, Winter 1995)*. "All of these high-performance designs," he says, "have the characteristics of the early effective schools literature but they are much more detailed about the nature of the curriculum, which is focused on high-level thinking skills, and they all have different ways of staffing, structuring, and organizing the teaching/learning environment.

"Many schools across America already have resources that could be reallocated to fund the ingredients of these high-performance school designs," he points out. "Once you allocate resources to a high-performance design, you have funded a high-performance school, rather than a traditional school. And if it produces the impact on student learning that the evaluation is showing it produces, you are improving the productivity of the system. The resources are used differently. They are the same level of resources but produce much higher levels of results—and that is improving productivity."

Policy Implications

What needs to be in place at the local, district, state, and federal levels in order for schools to become more productive?

"We need standards," Odden says bluntly. "We need curriculum standards and content standards at a broad level in each state. We need student performance standards. We need some kind of state testing system at the school level that would give the district and the state good measures of how schools and districts are doing over time in meeting achievement-level targets. We need a considerable amount of ongoing training. That is the core. All of the high-performance school designs have approximately 1 to 2 percent of their budgets set aside for ongoing training.

"Finally, we need an accountability system. We have to hold principals accountable for running a good school where teachers are involved in the decision making. Teachers need to be accountable for teaching to rigorous professional standards, which can be brought about through a competency-based pay system. To that accountability system, I would add school-based performance awards for meeting improvement targets, and for consistently nonperforming schools some kind of sanctions preceded by help and intervention."

"Schools need to look at all the programs they are trying to implement and decide whether the programs work. If they don't work, they need to reallocate those resources to newer strategies."

Convincing Districts to Be Productive

Underpinning the strategies that boost productivity is the "pressure for results" factor: whether schools want to do the work that will make them productive with a paramount, single-minded focus on heightened student achievement. How can school districts be persuaded to reconfigure their resources and concentrate on student achievement as their preeminent goal?

Odden emphasizes the need for powerful accountability measures in education as part of the urgency to produce results. "People have to be serious about results," he states. "Right now, if schools do a good job, little happens. If schools do not do a good job, little happens. Restructuring and reallocating resources takes a lot of energy. In many places, there is no incentive for teachers to want to take that work on. In fact, people who try to do it often encounter a lot of bureaucratic disincentives for that behavior.

"Somehow, the district and the school have to develop an understanding that, if achievement is low, there will be real consequences if it does not improve. It is also necessary to provide incentives for schools that want to engage in the restructuring and resource reallocation process."

Looking at what other schools are doing can spur action, he believes, and provide inspiration. "Taking trips to districts with the same kind of kids who are learning at a much higher level is one action school staff can take. That helps people believe that there are other places that are doing much better and often with the same or even less resources. They begin to see how low student achievement in their own schools and districts really is, and they begin to understand that they can do better."

Rewards for doing better invigorate and stimulate the change process, he maintains—and provide a concrete impetus for wanting to improve. "Districts and states should consider school-based performance awards, such as a bonus to everybody in the school if improvements are made over time. Schools are compared to where they were last year or two years ago. If they meet improvement targets, such as increases in student achievement, then they become eligible for a performance award."

Sanctions can also be used, he emphasizes, and should be part of schools' and districts' plans to increase productivity. "Places that have used sanctions have evaluated principals on results. For example, in the Charlotte-Mecklenburg district, if the schools do not show significant improvement on an annual basis, the principal is put on a two-year notice. After two years, if the school does not meet its improvement targets, the principal is replaced. That is one strategy.

"Another strategy is reconstituting the whole staff of the school. At first, the strategy is to provide help and give staff two or three years. If improvement doesn't happen, staff are dispersed and a whole new staff is hired. That has been quite effective in several places in California, particularly in San Francisco.

"Those kinds of real consequences put teeth in accountability," he adds, "which means you have to have both the positive and the negative in your accountability system to send a signal to the schools that the system is really interested in moving performance in an upward direction."

Using sanctions is not an easy step for many schools and districts to take, he acknowledges. "Not all districts want to do this. Not all educators want this to be part of the system. Not all policymakers want educators to do this. However, if real accountability is required, some remarkable performance results. And if you do not use sanctions, things probably will just coast along and not change."

Opposition to Accountability

How does Odden envision the roles of teacher unions and organizations when confronted with strong measures such as school reconstitution?

"At the local level, the role of unions varies across the country," Odden responds thoughtfully. "Teachers and national teacher union leaders want high standards for American schools, support more teacher involvement in school management, and also see the need for incentives. San Francisco has a very strong union but that district implemented their reconstitution under a desegregation mandate, which meant that an external authority was in charge.

"In California and Maryland, strong unions were involved in the reconstitution process. In that situation, one possibility is that the union contract may contain some restrictions on the initial design and implementation of staff reconstitution. Although the union may create restrictions, that doesn't mean that reconstitution will be precluded. In some places, unions may support tough measures to ensure that all teachers in all schools are qualified and working hard. An example is Cincinnati, where they have a peer review of teachers. In most peer review programs, teachers tend to have much higher standards than any of the supervisors did in the past."

Odden points out that staff changes can also be structured so that teachers are not fired, but simply assigned to other schools. That is possible for a while as long as you are not dealing with other schools that are going to be reconstituted.

"The only ramification is conflict with some types of transfer policies, which in many places may not be that problematic. I am not aware of any program that actually fires teachers, which certainly would be problematic."

Productivity and Restructured Teacher Compensation

Since teacher salaries are the most substantial investment of resources any district makes, and are rigidly constructed by steps according to experience and education, are there ways they can be reconfigured to increase productivity?

"If management is decentralized," Odden says, "and teachers work with a tougher curriculum, they need new skills and competencies to succeed. In other organizations, when this kind of high performance management has been implemented, they have shifted away from the system that paid people on the basis of seniority and toward the system that paid them on the basis of knowledge, skills, and competence. The knowledge, skills, and competence were those needed in the new kind of work team that would be able to get the job done.

"The biggest part of pay change," he continues, "could be shifting from years of experience and education units to more direct measures of knowledge, skills, and competencies as the basis for periodic, ongoing salary increases."

A performance bonus system, he adds, could be layered over that type of pay change. "The programs in Charlotte-Mecklenburg and Dallas, Texas, provide about $1,000 for all the professionals in their schools and about $500 for classified staff. In Kentucky teachers receive about $2,000 to $2,500 and classified staff approximately $500. So the compensation piece could include a performance bonus but that is not a substantial addition to pay.

"The biggest change is a shift from units, experience, and seniority to knowledge, skills, and competencies. An example is a substantial bonus for teachers who become certified by the National Board for Professional Teaching Standards. Those teachers have shown that they have developed a set of professional competencies far beyond what is required and have been assessed to external, vigorous, professional standards. Those are the type of teachers the school system wants to keep."

Comparisons Between Business and Education

There are natural analogies between the private sector and education when the topic of productivity is raised. How useful are these comparisons?

"The high involvement practices that are emerging in the corporate sector which have been used to improve performance have very good applicability in education," Odden reflects. "This means much more worker involvement and more self-managed teams of workers. In our work here at CPRE, we have studied school-based management from the perspective of that high-involvement framework. It has worked quite well at identifying the pieces of school-based management that need to be part of a comprehensive school-based management strategy. We have shown that those places that have put into place all the parts have a much smoother operating decentralization plan than those that have not.

"At very general levels," he adds, "many strategies translate to education, although even in the private sector they have to be adapted to each specific context."

Leadership for Productivity

What do these high-performance strategies demand from school leaders? Do leaders need to shift traditional, hierarchical leadership styles to a style that is more collaborative and inclusive of staff and community input? What skills should school principals possess?

"Leaders need to be trained in new styles of collaborative management," Odden says. "Principals clearly need the skills and competencies to work with teacher decision-making teams, which is generally not how they have been trained and prepared in the past.

"Principals also need to become much more skilled at program evaluation so that they can develop school improvement programs and make the budget links to a schoolwide high performance design."

In contrast, most of the budget expertise currently resides at the central office level, Odden points out. "If schools decentralize, the principal and at least a few teachers have to be skilled in the whole budget process and in how to match budget allocations to the key ingredients to implement the school design."

Odden concludes with some overall thoughts. "The public school system can become much more productive. To do so, it needs clear goals that focus on student achievement in the core academic subjects. It needs ambitious performance standards and tests that indicate how well students and the education system are doing. It would require more professional development (2 1/2 percent of a district's budget), more teacher involvement in school management, facilitative principal leadership, and a mix of incentives and sanctions," Odden said.

"A set of integrated and connected strategies is required. There are no silver bullets. And it will require lots of energy and hard work. Driving the changes should be the belief that achievement is not what it needs to be and that all students can achieve to much higher levels."

Lawrence O. Picus: Building on the Strengths of Teachers

How much does the sheer amount of money available to public schools matter? Is the amount of money at schools' disposal the key variable, or is it more important to reconfigure how resources are spent?

Lawrence O. Picus believes that money for public education matters a great deal—but he is equally emphatic that what really counts are the crucial decisions about what the money will buy and what outcomes result from the investment. "Continuing to spend money in exactly the way we have spent it in the past, paying the same people more money to do the same things, is not going to change student outcomes," he says firmly, "and improved student outcomes ought to be our primary goal. If improved outcomes are our goal, resources need to be used in ways that focus on educational strategies that work, strategies that succeed in raising achievement for all students."

To what degree does the context in which schools exist need to be factored into any strategy for productivity?

"What works in a high-income, white, suburban neighborhood—Shaker Heights, Ohio, or Beverly Hills, California—doesn't necessarily work in the inner cities of New York, Chicago, or Los Angeles," Picus replies. "That is particularly difficult.

"What works for one child, of course, is probably going to be different from what works with a different child in a different city. There are so many variables: how a student reacts to one teacher as compared to another, the differing speed at which children learn, how teachers react to individual students, whether the school building is attractive and clean, whether students are good test-takers, and how they feel in school on a given day, to name a few."

How do schools respond to the needs and constraints of the particular contexts that surround them when it comes to decisions about spending money available to them? "The strongest single finding of my recent research," Picus reports, "is how consistently resources are allocated in the same patterns, regardless of how much money the district has. That is, all districts spend about 60 percent on instruction, which covers teachers' compensation, salary and benefits, and instructional materials in the classroom.

"Obviously, in a district that spends $10,000 per pupil there is much more for each child than in districts that spend $5,000. In higher-spending districts, classes are smaller, teachers have higher salaries and more resources—so in that respect, money does matter. More support services surround each child, the school building is cleaner and more attractive, and there are more services for children with different special needs."

The Conditions for Productivity

Could schools and districts help their focus on improved student outcomes by asking themselves a few key questions—and if so, what might they ask?

"Schools could ask," Picus suggests, "what the conditions are under which a school succeeds. They could also ask: What other conditions outside school are in place that affect learning?

"Children who are learning may be those who go home to comfortable, middle-class households where they have parental support. Children who aren't learning may come from households where they don't have those opportunities—or where parents don't make learning their priority. When we make decisions in schools about how to spend our resources, we need to look carefully at the conditions that affect learning—which means that we must look at the entire social picture."

When making these decisions, should educators equate more money with increased productivity?

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Not necessarily, Picus argues. Nor does money alone suggest that the educational program it can buy is necessarily more coherent and logical.

"One real difficulty is disruption in the educational day with kids pulled out and brought back into the classroom," he says. "We need to ask ourselves if we should move away from Title I pullout models, away from special education pullout models. For example, I know of a little boy who met with the Title I teacher to learn reading skills. He met every day at exactly the same time that his regular classroom teacher taught mathematics. At the end of the year, he hadn't learned any math and no one knew why."

Coordinated and comprehensive visions of children's educational programming is an important step toward educational productivity, he emphasizes. "Presently we have a ramshackle, random, scattered program in most schools. Instead, we need a conscious, integrated approach to children's education. For example, I like the models in which one adult is responsible for a child or models in which 4 teachers take 80 children and work with them over three years in a team. They know the children very well, they know their families, and they know what is going on in their lives outside school so that they can make adjustments in their instruction to go along with that. Things happen in kids' lives that clearly affect whether they are going to be able to learn."

Incentives for Productivity

What incentives will prod schools toward productivity, toward the paramount goal of heightened student achievement? Do incentives succeed? Are there drawbacks that should be considered?

"Creating incentives from the top down doesn't work very well," Picus reflects. "Frankly, I am skeptical of top-down incentives such as bonuses or money.

"For example, one top-down incentive is to free a school or district from state regulations. Yet we give those incentives to schools that have managed to succeed under those very constraints. If we free them, the assumption is that they will do even better. What if the regulatory framework created the situation that allowed the school to succeed? I expect that the evidence on the success of such programs that eliminate regulations is mostly rhetorical and not data-based."

Picus finds sanctions from the top down more successful, although they possess a punitive quality that consequently may not appeal to educators. "Sanctions are a form of top-down incentives that work to improve district performance," he continues. "But they don't provide cash to districts or relieve them of regulations. Instead, they suggest that there is a very high penalty to be paid for failure."

To illustrate his skepticism about whether incentives bring about productivity, Picus says, "When we had the California Achievement Program test, for a few years schools that did well received money for their performance. There is evidence of high school seniors going to the principal and saying, 'We are not going to pass that test.' We also had an incident at a high school in Southern California—which ranked in the 95th percentile of the state for years—where the test scores came in and they were in the 59th percentile. When they looked more closely at the tests, they found a relatively small group of students who intentionally got every question on the test wrong and totally destroyed the school's average.

"Children and adults are wonderfully responsive to incentives," he adds wryly, "so we are better served by creating real incentives in the market structure."

In what ways can a market be created within schools—and thus boost productivity?

"The market creates the real incentives that make people work or not work," Picus explains. "That is what works in the private sector. The difficulty is that when we try to put markets in schools we try to do it through choice and vouchers."

What is problematic about choice and vouchers?

Picus believes that they are selective programs that cannot accommodate all children. "What makes the market work is the concept of total failure," he adds, "and schools are probably not going to disappear. They will be there under choice and voucher plans—but with less resources, less able to serve children."

Instead, he maintains that professional development for teachers can be a powerful incentive for improvement if control of it is placed in teachers' hands. "The first area to be cut in most school districts is professional development. It is ironic—we talk constantly about how important it is to train teachers to do their jobs, and then we don't put the resources behind our rhetoric. In site-based structures, I recommend that schools spend 5 percent of their budget on staff development."

To create an incentive or a market in schools, Picus recommends that teachers band together to choose whatever staff development they want—and then take responsibility for the results they are able to bring about. The concept of market failure fits into this scenario, he maintains, when it is clear that some providers of professional development cannot achieve the results desired by teachers and administrators.

This tandem plan of choice, coupled with accountability, succeeds in creating a real market within schools, he believes.

"You are accountable for your student outcomes," he explains. "The single most important resource that schools have are their teachers and other staff. This work force is highly educated and almost universally committed to better education for all children. I would like to see policies that allow staff to take responsibility for their own professional development and then hold them accountable for student outcomes."

Accountability: How to Achieve It

Is accountability for results truly possible, given how schools currently are structured? What conditions might prod increased accountability?

"The market for teachers needs to be more flexible," Picus replies. "We need to ensure that like-minded teachers and administrators are in the same school. For example, site-based management doesn't work well when teachers don't have the same idea of how it should work that their administrators have.

"I saw a good example of this in a school in Houston, Texas, when the principal said that site-based management was a Communist plot. He stated that schools should be run in a democratic fashion where one person was in charge and told everybody what to do."

Many teachers, Picus believes, would be content with such an authoritative system. "There are some teachers who would respond well to this type of managerial style. Other teachers work better with principals who are very collegial and want to work on building consensus. We need, therefore, an open market where principals and teachers can seek each other out. We need a market where teachers and principals who share similar management and instructional philosophies have the opportunity to work together in the same school. In that way, we will have teams of instructional professionals who want to work in the same direction to achieve their goal, which should be high student outcomes."

But what is the reality of a market in which teachers and principals choose one another and work together? Won't some people be left out?

"Of course," Picus acknowledges, "the difficulty is what to do when there are some teachers that nobody wants. Ideally they are no longer in the system, but that is where the unions start having concerns and problems, and rightly so since that is their role. However, some teachers are not going to find a place anywhere and probably deserve to be removed—but that is a very small number of teachers. If we achieve true communities of learners, hopefully the marginal teachers will be inspired to participate."

What comes next? How does high student achievement enter the accountability puzzle?

"We need to agree that high student achievement is our direction," he replies, "and then search out the kinds of professional development opportunities that will work for our different situations. What works for south central Los Angeles is going to be different than what works in a university community populated mostly by the children of professors."

Measuring Accountability

How should schools, districts, and states measure performance? Given weaknesses with standardized achievement tests, are there other measures that are effective and reliable—or that show promise? Do we expect results too instantly?

In his answer, Picus points to the state of Texas as a promising example of an educational accountability system. "Texas has a very straightforward accountability system, based on the Texas Assessment of Academic Skills, which is a standard, multiple-choice test that measures problem-solving and thinking skills.

"They have an explicit standard that 90 percent of the children in the state should pass all three pieces of the test: reading, writing, and math. They measure schools to find out how they are doing. Not only should 90 percent of your students pass the test, but there is a dropout and attendance threshold as well. Schools fit into one of four categories that range from unacceptable to exemplary. Currently, if 25 percent of a school's students pass all three parts of the test, the school is ranked as acceptable. Otherwise, it is a school that needs improvement. This 25 percent is inching its way up slowly. At each district a set of programs is in place to bring about improvement, and if they fail, the state itself takes over the schools that aren't achieving the higher standards."

One key strength of Texas's assessment system, he says, is that information explaining it has been been widely disseminated so that public understanding of its targets and goals has been enhanced. In fact, the information is so available that interested parties can find it on the Internet.

Another strength, he believes, is building upon what has been accomplished to date. "Today, they are no longer tinkering with the system," Picus explains. "A major problem with accountability is that every year we change the measurement and the target. How do you know whether you are succeeding or failing if you are trying to meet a different target every year?"

The last critical piece of accountability is, somewhat surprisingly, the need for patience, he attests. "If we have a child

in the tenth grade who reads at the third-grade level, a program instituted at the tenth-grade level to improve her reading that showed, by eleventh grade, a gain of one year in reading ability, could be considered successful.

"But, since the student is still seven years behind where she is supposed to be, we consider that the school is failing. As a result, we keep changing things and we need to be both more consistent and more patient. When people say we don't have time to be patient because we will lose these students, I am not convinced that we aren't losing them by changing our plans every year or so."

Business and Education: Possibilities and Pitfalls

Are there weaknesses in the analogies drawn between business and education? If so, what are they—and how substantive or troubling are the concerns that they raise?

"The reason," Picus says carefully, "we have government providing many services is because the business model doesn't work. In the simplest form of education, there are social benefits and long-term individual benefits that can never be captured monetarily if people pay for them up front in a business profit-making model. The typical business model is that I spend some money, I manufacture something, and I sell it at a price that will make a profit.

"If my son goes to school, hopefully that leads to a long-term higher income than if he didn't get a good education. Moreover, it makes him a contributing member of society. The benefit we receive as a society from his education far exceeds the personal benefit. I can't be charged for whatever one sees as his personal benefit in terms of future earnings, which would be difficult to calculate anyway.

"It is very clear that we have to spend money on education in order to have an educated society, which we want and need. On the other hand, school districts are large employers and property owners. They can manage their property just like private businesses manage their properties. Business models make sense for functions such as purchasing, accounting, budgeting, personnel, and payroll—which should all function as efficiently as they do in private business."

But he warns that private businesses are far from infallible. "Big bureaucracies have inherent problems. As an example, think about how long it takes to straighten out an error on a credit card statement."

Businesses also typically spend considerably more than education on their top layer of staff, despite accusations that administrative costs drain districts of their resources. "If we look at how much money goes to central office administration," Picus explains, "it ranges from 2 to 6 percent in school district expenditures, which is very low compared to what is spent in a large corporation. In some companies, the compensation for the CEO and top staff exceeds 6 percent of the company's revenue."

The function of teaching and working with children, however, is simply not analogous to what happens in private businesses, he adds. "You can make sure that the teacher is teaching the children every day. You can make sure that the teacher is paid on time and receives the right amount. But when it comes to what the teacher does with the children, there is no bottom line; there is no profit motive. What you need to do is run the other pieces of education as efficiently as possible so that as many resources as possible find their way to the child in the classroom. School systems that are productive let the teacher do what he or she is paid to do and provide the resources and support to facilitate the teacher's work. That is what it means to be a productive school system, and that is what we should work toward as our educational goal."

To create an incentive or a market in schools, Picus recommends that teachers band together to choose whatever staff development they want—and then take responsibility for the results they are able to bring about.

"The good news is that we must now do something different because we cannot afford to do more of the same. We must take the financial resources we have and reinvent the learning environment for students."

Roland S. Barth

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Fred M. Newmann: Success, Not Productivity

How useful is the concept of productivity when applied to schools? Are there caveats about its educational application that should be noted—and if so, what might they be?

To Fred M. Newmann analyzing the relationship between inputs and outputs is not nearly as straightforward or revealing as in other endeavors. "If we are analyzing productivity on a farm," Newmann replies, "we can talk about the number of bushels per acre, so that the number of bushels is the output and the input is the amount of land."

Even in an enterprise such as farming, however, it becomes an analysis complicated by a myriad of factors, he says. "What is a productive farm? If we ask that, we also could ask: What kind of output are we talking about? What do we want this farm to raise? Farms could produce manure, wheat, dandelions, or beef—among many other things."

After choosing or identifying an output, it becomes necessary to stipulate its quality, Newmann asserts. "Presumably there is wheat of varying quality, so rather than just a certain number of bushels, one would want a certain level of quality for the wheat. That becomes a real problem in defining the output.

"Similarly, in terms of input, obviously more is involved than just the amount of land. There are labor costs to be considered, including wages and benefits. Perhaps the farmer uses pesticides and herbicides whose cost to the environment needs to be calculated along with the cost of the resources. The farmer also may be using land that might be used for other kinds of developments. What are the costs of using that land for wheat instead of something else?"

Applying productivity to an enterprise such as farming is relatively straightforward compared to education, which is considerably more daunting, he believes. "When we get into an enterprise where the indicators of either output or input are numerous, much more difficult to measure, and where there is dispute about their value, then productivity is much more difficult to use in any kind of practical sense."

But isn't the main outcome in education student achievement?

"The main outcome shouldn't be achievement," he notes emphatically. "It should be gains in student achievement that can be attributed to a school. Presumably pupil expenditures could be the measure of input, but it is not that simple because there are different kinds of students—and some students cost more to educate than others. These costs could be averaged over the different kinds of students but this average will not provide a true picture of the productivity of a school. The only way to reach an accurate idea of productivity is to break the costs down and show the relative cost of educating kids within the same school who begin at high levels of achievement versus kids who begin at low levels of achievement—or the costs of educating kids who come from different kinds of family backgrounds.

"Also, the costs to educate students are costs not just incurred directly by the school but also include the resources the family puts into helping that youngster succeed in school—both financial and human resources. Costs also include the time teachers spend outside school beyond the time compensated in school. To really figure out all these costs would be a very complicated operation.

"This doesn't mean that we should abandon a common-sense notion about this and give up on measuring the relative success of various schools," he adds, "but I prefer to use the word 'success' rather than 'productivity.'"

What is "success"? Isn't it just as complicated a concept as productivity? How is success measured? How do educators and

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other stakeholders in the educational process recognize success? What are its primary indicators?

"I don't define success as the ratio of input to output," Newmann contends, "because the output of schools depends on the goals of clients the school is supposed to serve. If a school serves a particular constituency with an agreed-upon set of goals, this could serve as a measure of the school's output. Most communities, when establishing goals for their schools, assume the school ought to be able to accomplish these within some sort of fixed input of money. They might want to stipulate that a per-pupil expenditure of $7,000 a year should mean that everybody in eighth grade can do certain kinds of math problems and engage in certain types of writing. If a community is able to stipulate that, it becomes its definition of success."

"There is no prescribed set of techniques or procedures, no handbook on how to produce in-depth understanding of disciplinary knowledge and its sensible application to real-world problems."

Increasing Productivity or Accomplishing Success

How can schools increase their productivity—or become successful? "First, it depends on the school's goals," Newmann replies. "Some communities could have all kinds of goals for their schools, including some that actually may be ethically indefensible. So I will focus on the goals we have studied in our research at the Center on Organization and Restructuring of Schools (CORS)."

A preeminent goal for CORS researchers was authentic student achievement, which Newmann defines as "essentially helping students think in complex ways about important subject matter and applying that thinking and understanding to problems that extend beyond the school situation."

Success with authentic achievement depends upon a community of parents and teachers who articulate and value this type of achievement, he maintains. But the type of teaching that has authentic achievement as its goal is more difficult than traditional teaching.

"There is no prescribed set of techniques or procedures, no handbook on how to produce in-depth understanding of disciplinary knowledge and its sensible application to real-world problems. Teachers need what we call 'professional community' to help themselves work together to define what these goals mean in terms of specific assessments, specific kinds of student behavior, and specific kinds of pedagogy."

Teachers also need a collective commitment to work together for all children in the school, not just the students in their individual classrooms. "Some general concept that ties different subject matters together is helpful. Teachers also need time to meet, develop curriculum materials, and look at one another's teaching. Generally it helps if they are organized in teams to do this over a period of time."

Finally, Newmann explains, teachers also benefit from contact with professional groups outside the school that can support both their curriculum development and their work on models of assessment, providing high-quality professional development to assist them as they move toward authentic achievement as their goal.

Professional Development and Success

What characterizes professional development that truly assists teachers in bringing about authentic achievement for all students?

Newmann quickly lists some attributes of high-quality professional development—and cautions against shallow workshops with no follow-up. "Professional development," he explains, "needs to focus on the intellectual quality of student and teacher work rather than focusing on how to implement a specific technique. It needs to be sustained over a period of time rather than be a one-time inservice with an outside expert coming in for a day with no follow-up. It needs to be worked into the daily practice and work of teachers—and it needs to occur during the regular day

"It is very hard to imagine how we would apply strong incentives and sanctions to schools, especially in public education where schools are not supposed to make a profit and the public is not willing to provide substantial bonuses to schools who show impressive records of success."

rather than always coming out of teachers' private lives, such as weekends."

This type of professional development is no small undertaking, Newmann emphasizes, since it requires an investment of time and resources not common in schools—and leadership that will facilitate the structural adjustments required. However, the biggest issue related to professional development relates to the quality of the experience.

"The biggest question about professional development," Newmann adds, "is how to ensure that it is of high quality. We have a shortage of people outside the schools who can help teachers in productive ways. This is part of the reason, I think, for the emergence of teacher networks—where teachers become their own helpers. They rely on other practitioners and other schools to help them. The effectiveness of teacher networks remains to be seen. Although teachers often applaud the work of networks, we don't have much actual research to show the actual effects of these networks on practice or the difference between effective and ineffective teacher networks."

Business and Education: A Productive Comparison?

The current focus on productivity in the private sector suggests the belief that education could learn from business procedures and attitudes toward customers. In what ways are suggestions that education pattern itself after the private sector useful? Are there ways in which schools can learn from business? Or is the analogy between education and business false and artificial?

"There are both positives and negatives in the analogies," Newmann notes. "We have to remember that analogies with business are assumed to occur within a market economy where there is competition among firms and choice among clients—and that the survival of the firms depends upon satisfying the clients. We tend to assume that these comparisons are positive because they nudge schools to be more accountable to their clients."

He sees that part of the analogy—an increased emphasis on accountability—as healthy. "For too long educators have not known that much about the effect of their work on students. It is much more responsible and ethical to be aware of the effect you are having on your students and see yourself as obligated to produce particular effects."

Different concepts of organizational development, increasingly well-known to corporations, also have potentially useful applicability in schools. "Schools generally have not thought much about organizational development and human resource development. Businesses could contribute by encouraging schools to take the whole matter of organizational development more seriously."

But he sees a multitude of drawbacks as well in the analogies. "In business, accountability for clients is a concept that works well because both the goals are quite clear and the incentives for success or failure are very strong. If you are supposed to make a particular profit for your stockholders, you can find out early whether you are making that profit or whether you are losing money."

He adds dryly, "For example, if you are supposed to serve a certain number of customers a week and they stop coming to your restaurant, the threat of going out of business is usually a powerful incentive to change.

"But in education, the goals are more disputable and multiple. As we have seen in the standards movement, when we get to the specifics of the standards, there is a lot of dispute about what the actual goals should be—even though parents, teachers, and administrators alike agree that there should be standards. It is very hard to imagine how we would apply strong incentives and sanctions to schools, especially in public education where schools are not supposed to make a profit and

the public is not willing to provide substantial bonuses to schools who show impressive records of success."

Organizational development at corporations such as Xerox or Chrysler is interesting and even praiseworthy, says Newmann, but these and other corporations do not aspire to the most complex of goals. "The organizational development we see in such corporations does not try to change human behavior or human attitudes or human confidence. Schools do try to do this. The whole process of educating a student is so much more complex than what most businesses do."

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Perhaps a more useful analogy is to compare education to psychotherapy or the health care professions, Newmann suggests. "In health care professions, they work to get people to modify their behavior: change their dietary habits and quit smoking or drinking. Although business seems to have learned much about organizational development, can it show us that through some process like TQM, it learned how to reduce smoking and alcoholism—and learned how to train people for more complex, intellectual functioning? Much as I would like to see education think about organizational development, it is not as if business has the answer to client-oriented services that are aimed toward the development of the client."

Why Choice Isn't the Answer

In theory, business functions within a market economy and the dynamics of the market itself are said to increase productivity. Some educators and policymakers believe that increased productivity for schools can be accomplished by distributing education through choice programs and vouchers that approximate market competition. Does he concur?

"One would think," Newmann replies, "that if there were more competition among schools for students, this would help clarify the goals of the school and would minimize waste of resources. If public funds went to schools based on their records of success with students, and parents could choose schools for their children, presumably they would not want to send their kids to schools that were less successful," he says.

Clearly, Newmann believes that this concept for public education raises serious, troubling threats related to the democratic goals of schooling. "We can't allow a system of choice that would violate principles of nondiscrimination. We can't allow schools to refuse to admit people based on the fact that they might be too difficult to educate or that it might cost more to educate them. We can't support schools whose curriculum would violate democratic principles. So even though competition seems like a great idea, there still has to be a certain amount of regulation of the competition to guarantee safety, nondiscrimination, and democratic practices in these schools."

The degree of regulation necessary to ensure that choice and voucher programs were democratic most likely would limit the range of choices available.

Recognizing the Successful School

How do we recognize a productive or successful school? Are there certain attributes or characteristics that clearly indicate a school is succeeding in its goals?

"According to my definition of success," Newmann replies, "it depends on the community's articulated goals, so I will speak for myself. I am committed to the main goal of authentic achievement for kids, equitably distributed.

"To determine how successful the school is in achieving that goal, a school could adopt an assessment system which would show the extent to which the kids in that school have succeeded with authentic academic challenges. This assessment would display the kids' work. We would be able to see what percentage of kids reach a certain level. The top level needs to

be recognized as such by external authorities so it isn't something just created on the inside of a school, which would make it an invalid measure.

"The next step is to look at the extent of differentiation in achievement between kids of different economic and social backgrounds. Basically, your goal would be to see the highest levels of achievement equitably distributed at a cost that is considered reasonable by the community."

Doing More With Existing Resources

What about using existing resources and reconfiguring them to accomplish more than previously? Can that be done to achieve authentic achievement for all students?

"Theoretically, schools could do more with what they have if they could find a way to simplify what they are trying to accomplish," Newmann points out. "One of the reasons that schools seem to cost so much and seem to get so little is that they are trying to do too many different things. Adversarial relationships over resources occur because of cultural divisions over what should be the highest priority in education. Organizations also try to push their particular interest on the school, often through legislation.

"My goals for schools are much more limited," he adds. "Basically, I have four: Help students to read and understand literacy and historical writing, gain proficiency in mathematics and science, write well, and treat people fairly. Other reasonable goals such as proficiency with computer or how to work in teams could be pursued as a means for accomplishing the four highest priorities.

"These goals don't include, of course, all initiatives from interest groups that push for particular kinds of literature to be in the curriculum, or advocate different approaches to the study of mathematics, science, reading, writing, and social studies. What I call treating people fairly turns into many different positions on what good citizenship means. These four goals also don't include the pressures on schools to develop special programs for the gifted, the bilingual, and special activities such as orchestra, day care, health facilities, and counseling for college entrance—to name a few."

All these pressures and activities add up to a bewildering and conflicting menu of choices, he maintains. "When it comes to reallocating existing resources there is always the problem of taking money away from one good cause to give it to another good cause. Naturally, nobody wants to give up anything."

Standards and Simplicity

What products or findings, in particular, from Newmann's work at the Center on Organization and Restructuring of Schools could be helpful to schools? In his reply, Newmann points to standards he and his colleagues developed as examples of focus and simplicity.

"According to our vision of authentic intellectual work," he says, "there are only three things to accomplish: Help students construct knowledge rather than reproduce it; help them do this through disciplined inquiry; and then apply this to issues and problems that have some meaning beyond completion of work in school.

"These standards don't solve the problem of what specific curriculum content to emphasize. But if you start with the simple notion of standards for intellectual work, this can help teachers in different grade levels and different subjects develop a common language for talking about the intellectual work for schools. It can help teachers talk about this intellectual work in ways that involve only three ideas: constructing knowledge, disciplined inquiry, and application beyond school. Focusing on the intellectual life of students," he concludes, "should advance our thinking about the meaning of school productivity."

"One of the reasons that schools seem to cost so much and seem to get so little is that they are trying to do too many different things."

Roland S. Barth: Productive School Renewal

What indicators reveal the educational productivity of a school? Are some indicators more revelatory than others? Are there indicators other than strict measures of inputs to outputs that are especially useful?

To Roland S. Barth, the question of educational productivity can be scrutinized in many ways—and through a multitude of lenses. "One could argue that an educationally productive school is one where parents want to send their children," he begins. "Or we can look at students and ask: Are they coming to school? Are they behaving themselves? Are they engaging in the activities? What are they learning?

"The same is true for teachers. Although this may sound self-evident, you could say a productive school is one where teachers are producing."

Barth wholeheartedly decries the enormous underutilization of human talent and intelligence in schools. "As part of our assessment of productivity, we should ask: Is the real teacher showing up? How much of the teacher is showing up? Just as we are all capable of our best, we are all capable of our worst. Are teachers giving their best most of the time?"

The role of principals as leaders who set high expectations for the school and continuously monitor achievement—a benchmark of the school effectiveness literature—is another indicator of a productive school, he points out. Yet he does not believe that these indicators comprise the heart and core of educational productivity, for they do not jolt conventional teaching strategies into compelling learning activities that truly engage the minds and hearts of students.

"On the one hand, we say we don't have time to teach kids all they need to know," he points out, "and on the other hand, we employ a pedagogy that is 'sit and get.' It is very unproductive. One estimate is that students remember 5 percent of what they are told—six weeks later. Given that estimate, this type of pedagogy is like using a V-12 engine in a gas crisis: It doesn't deliver."

How does a school become educationally productive?

Barth insists the process is not a mystery—nor is it impossible to accomplish. "We already know a wide range of strategies that promote human learning," he notes, "and if we are going to be 'productive,' we need to engage students in the type of learning that will have some lasting impact — experiences like community service, field trips, working in groups, reflecting, writing, and students teaching others."

Learning at Two Percent: The Absence of Educational Productivity

Is there any indicator of productivity that is more telling than others? Clearly, Barth believes that the school's capacity to promote lifelong learning is the core, the heart, the essence of productivity.

"Fifty years ago," he says, "students graduated from high school knowing perhaps 75 percent of what they needed to know to be successful in the workplace and, more broadly, in life. Today it is estimated that students graduate from high school knowing perhaps 2 percent of what they are going to need to know to be successful.

"I think they know more now when they graduate than they did 50 years ago, but the nature of the workplace, the nature of our society, and the nature of learning means that we all are going to be expected to learn as we go along, or we will not survive."

Aren't there a host of barriers to achieving an educationally productive school? Can they truly be overcome?

Overcoming Obstacles to Productivity

Barth maintains that while barriers to productivity abound, they can be hurdled—especially if educators recognize

Roland S. Barth has spent his career furthering the self-renewal of schools in several capacities. Currently a consultant to schools, school systems, state departments of education, universities, foundations, and businesses in the United States and abroad, he served as a public school teacher and principal for fifteen years in Massachusetts, Connecticut, and California and as assistant to deans at Princeton and Harvard. Barth was the founding Director of the Principals' Center at Harvard and of the International Network of Principals' Centers. At Harvard he was Senior Lecturer in Education for ten years. The recipient of a Guggenheim Fellowship, he was an Academic Visitor at Oxford University and a member of the National Commission on Excellence in Educational Administration. He is the author of numerous books and articles, including Improving Schools From Within *(1990),* Run School Run *(1980), and* Open Education *(1972).*

"When students arrive at school at age five they are imbued with the magical powers of lifelong learning. They are explorers, question-askers, inquirers, excited about finding the answers. What do we do? We turn that off and teach dependence, not independence. An educationally productive school, in contrast, accepts youngsters who are voracious explorers and not only permits and nurtures that behavior, but amplifies it."

and deal with what he sees as one of the most persistent and deadly obstacles: the culture of passivity that thrives in schools. "Students, teachers, and administrators all become dependent variables," he observes, "accustomed to being acted upon."

When all people within a school take responsibility for their own learning, the quality of learning is infused with energy and purpose. "A culture of lifelong learning is evident," Barth thinks aloud, "when we see grownups—teachers, principals, parents—who are not only constantly engaged in learning themselves but also engaged in making that learning visible to one another and to students.

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"What do we do? We turn that off and teach dependence, not independence. An educationally productive school, in contrast, accepts youngsters who are voracious explorers and not only permits and nurtures that behavior, but amplifies it. That is a school that creates lifelong learners—and therefore a school which is educationally productive."

Recognizing Educational Productivity

How is educational productivity visible? What indicators, apart from scores on traditional, standardized achievement tests—which may not be accurate measures of what students truly know—should we use?

"I doubt that standardized test scores have much value in measuring or predicting the lifelong learner," Barth replies. "Instead, I want to know what people do on their own time after school. When the bell rings at 3 o'clock, what do kids do until bedtime? Do they continue to learn? Do they engage in sports, do they sit and listen to music, or do they watch TV? It's been said that 'character' is what you do when no one is looking. Educational productivity is what you do when you're not graded for it.

"Are there many realms in which students continue to be learners? What do they do on weekends? What do they do on summer vacations? What do they do when they graduate from high school? When school is over, is their learning over as well?"

Most unfortunately, when many students graduate from high school, they exult in the belief that they are finished with the need to learn. "I find it very common for graduating high school students to burn their notes and say, 'Never again.' They believe that no longer will they have to submit to learning. I believe, to paraphrase Yogi Berra, that it's not over when it's over."

The view of learning as something onerous to which one must bend and submit, he argues, is a horrifying concept. "This," he emphasizes, "is the worst indictment you could place on a school. Schools in which students submit to learning generate people who hope they are finished with learning when they graduate from high school. These schools are profoundly unproductive, particularly if we figure that these students have 98 percent of their learning ahead of them if they are going to be successful."

The same indicators hold true for teachers, he believes. "Are teachers and principals talking with colleagues, visiting other classes, taking courses? Are they exploring, reading, experimenting, questioning, and developing on their own time?"

The question, What are teachers, principals, and students doing on their own time? asked seriously, can uncover information that would probably alarm parents, educators, and the general public—as it should, Barth believes. "If we believed our most important responsibility is to help create and sustain students' learning, we would run our schools and classrooms differently," he underscores.

"The grown-ups must be the models of learning, they must engage in the most important enterprise of the schoolhouse in a way that is visible to the kids. Youngsters are not dumb. They want to be like these important role models. When they see people before them who are done, finished, baked, and cooked as learners, they also want to be finished, baked, and cooked. If they see people who actively engage in excited learning, they want to do that also."

"One definition of insanity is when something is not working and you keep doing it, doing more and more of it and expecting a different result."

Financial Resources: How Much Is Needed?

In a time when financial resources for schools are projected to decline, is it practical to expect schools to do more with what they currently have? Is that exhortation realistic? If so, how can schools accomplish it?

"One definition of insanity," Barth said slowly, "is when something is not working and you keep doing it, doing more and more of it and expecting a different result. Of course, that doesn't happen. We keep engaging in many activities in schools that don't work very well—ability grouping, didactic teaching, 55-minute periods—and expect different results.

"The good news is that we must now do something different because we cannot afford to do more of the same. We must take the financial resources we have and reinvent the learning environment for students."

Barth declares, "The real meaning of school reform, for me, is an invitation, a mandate, to examine every practice, policy, and procedure and ask of it the question: Who learns what of any importance as a consequence of doing that?

"In one sense, any amount of money is a lot of money. What we are short of is not so much money, but some new ways of thinking about promoting learning in young people and in adults. If the financial crisis in schools forces us into restructuring our learning environments, it may indeed make an important contribution."

Rethinking Resources for Educational Productivity

Will schools need to make drastic changes in order to become more productive? Not according to Barth, who insists that achieving a true paradigm shift that stands conventional pedagogy on its head—in novel, productive ways— doesn't necessitate more expensive, grandiose school improvement plans, mission statements, or boxes of new materials. Frequently, the simpler, more obvious changes, those that nudge the school culture from passive to proactive, are the most powerful.

"The quality of instruction in schools is by far one of the biggest problems," he notes. "The adults pose the questions that students are supposed to answer: What are the causes of World War II? What are the capitols of the states? With this type of instruction, students invariably end up at best as compliant, dependent variables.

"We all know that we engage most voraciously in our own learning and care most about it when we pose our own questions. If other people's questions dominate students nine-tenths of the time, then students aren't invested very much in their responses nine-tenths of the time. They may be complying, but I wonder how much they are learning."

Instead, educators need to invite and honor students' questions, Barth argues. "If students are committed to finding an answer to a question, most will probably help find their own resources. You don't need to put a huge amount for science equipment into the budget for the student who is passionate about astronomy. That student will find a telescope somehow."

In fact, Barth believes that examining the amount of time students expend answering their own questions is a substantive way to measure educational productivity. "What percentage of the time are students working on questions posed by somebody else? What percentage of the time are they working on a question that they have posed for themselves? If we could shift from the former to the latter, I suspect fewer dollars would go further. We wouldn't need 30 sets of tests, 30 sets of microscopes, 30 computers—because it is unlikely that all 30 kids in that class would pose the same question at the same time.

"Similarly, if teachers have some choice about how to spend precious dollars, those

dollars will go further," he continues. "When I was an elementary school principal, we decided to divide the entire instructional budget for the school equally among the teachers. Each teacher (and the principal) received an 'account' of $400 per year. Beginning teachers and specialists received $500. Very soon teachers were making deals with one another to purchase materials that they could all use. Responsibility for a modest amount of dollars led to extraordinary cooperation, resourcefulness, and ingenuity."

Limited financial resources may yet demand that educators achieve a paradigm shift, he maintains. "Public education needs more support. But we know now that doing more of the same is no longer productive. Doing more of the same is no longer possible given our resources. We have to do something different. This is certainly what happened to the business community, where limited finances stimulated fundamental reorganization."

Education and Business: Are Analogies Helpful?

What about analogies frequently drawn between education and business? Many panels and blue-ribbon commissions exhort educators to learn from the corporate sector and adopt business practices in order to achieve educationally productive schools. Barth says, "Responsibility for some schools has been handed over to businesses."

Is this fair? Is this helpful?

"More and more, schools are going to be challenged to become much more businesslike," Barth muses. "However, the danger is that we often compare ripe apples with rotten oranges. That is, we compare the very best of business culture, such as W. Edwards Deming and others, with the worst of schools. To be fair, we have to compare ripe apples and ripe oranges or rotten apples and rotten oranges."

Barth points out that bad practices are not the exclusive property of schools. "There are some very, very bad businesses and very bad practices in business. Thousands of businesses fold every year. There are some very good schools. Let's not compare the heroic business to the unheroic school."

However, one practice of successful businesses that could be applied to schools is the speed with which decisions can be made and executed. "I was a consultant for about three years to a travel business," Barth recalls, "whose clientele was the elderly. The business wanted to see them become explorers rather than sit on a bus and look at things. My job was to convert their trips into genuine learning experiences, like good fourth-grade field trips.

"What astonished me was how fast this company could move. When a bombing occurred in Lebanon which caused the threat of airplane sabotage in this country, prospective clients didn't want to fly anywhere. In 24 hours this company shifted its entire itinerary to cruises to Alaska, to New England, to Florida, so that everything could be done on a ship within the United States."

In schools, the wheels turn much more slowly and painfully, he contends. "First we wait until the problem festers and we are already being dragged down by it. Then we appoint a committee of representatives, probably spending about a month jostling about who should be on the committee. We hold a few meetings, and they drag on and on. After about three years, we come up with a piece of paper to which people begrudgingly sign their names."

This snail-like pace is not "educationally productive," he insists. "I learned from this company that you can move very fast if you are motivated. You can make major, timely decisions quickly and implement them. To be sure, this was a tightly coupled organization where people could be hired and fired overnight, where you put a memo in a mailbox and people have to jump. Schools are loosely coupled, people are tenured and move more slowly—if at all. But it doesn't have to remain so."

Nostalgia for a romanticized past in education is misplaced and counter-productive, he suggests. "The problem with schools isn't that they no longer are what they once were; the problem with schools is that they are precisely what they once were while the whole world is traveling at a revolutionary pace all around them. That is one dimension of the business culture that is transferable to schools, as are concepts such as teaming and making decisions collaboratively."

A tougher scrutiny of inputs and their links to outputs is desirable as well, he believes. "Businesses make the connection all the time. In schools we need to ask: Are these expenses leading to some desirable result? For instance, we buy textbooks and workbooks all the time. Do we link that expenditure with whether kids become lifelong learners? Do these workbooks help kids develop their literacy skills? We

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don't attempt to establish a link; we just keep buying textbooks."

However, schools should be wary of negative business practices, such as the ruthless desire to profit. "Many people cheat in business. There is an amoral, sometimes an immoral, component in the business culture that usually revolves around money and power. That," he emphasizes, "is the rotten piece of the apple. We don't want that in schools.

"Instead, I am idealistic enough to think that there are higher, more important, and more appropriate motives that drive our profession. Although businesses would like to see us reward schools, teachers, and principals with dollars for outstanding behavior, I suggest that far more valuable rewards for educators can be found in serious recognition of the work they do. That is why teaching is a dedicated profession with public servants rather than a business with people trying to make a lot of money."

A Paradigm Shift: Rethinking Snowball Fights

How do school leaders make small, but significant, changes that heighten productivity?

Barth tells a story of snowball fights and their repercussions that provides a metaphor for paradigm shifts in education. "When I was a principal in Massachusetts," he remembers, "every time it snowed we had a problem. Kids on the playground would throw snowballs. Invariably, somebody would get hurt and call home. Soon an upset parent would be in to see me.

"What usually happens in these situations is the imposition of some rule to manage the situation: No snowballs, or kids can't go out when it's snowing, both of which seem to me to be totally anti-life solutions. Some sixth graders said to me, 'When it snows, you have to throw snowballs,' and I agreed. As a sixth grader, I did!

"So I got together with the kids after school and we brainstormed. They came up with a wonderful plan. They set up a combat zone in the field, marked by four little corner markers, connected by trampled lines in the snow. Anybody who went into that part of the playground could throw snowballs and be hit by snowballs. Anybody who didn't want to throw or be hit stayed outside. If you were hit in the zone, you were not allowed to call home or come crying to the principal's office. You went in there and you took responsibility for whatever happened. It worked wonderfully well for the bold and the timid alike—and the principal.

"The point is that leadership that emerges from principals and students working together solves problems and develops fresh policies," he adds.

But what about the naysayers? How does shared leadership work with those who almost enjoy their negativity, who refuse to try something new or different? How does the school leader enlist them to climb on board?

"On board," Barth replies thoughtfully, "to me, means getting them to become inventors rather than complainers or begrudging compliers. Whenever somebody in a school is complaining constantly about a problem, this indicates that this person cares about whatever the problem is—whether it is about supplies or the fire drill policy.

"I had such a teacher and a primitive supply closet, about which he complained constantly. I asked him to take it over, to reinvent the supply system so that when teachers needed things, they could get them quickly. It was additional, uncompensated responsibility but I promised him complete control over it for one year. He would receive all requests for supplies, all complaints, and all praise."

The complaining teacher agreed to try it for a year. Transformed, he immediately

organized a group of fifth graders who brainstormed with him a new way of running the supply system. They decided they would guarantee "next-day service" to teachers.

"Each day," Barth recalls with obvious pleasure, "they went to teachers and asked what they needed for the following day. They filled out a request for the next day, boxed each teacher's supplies and delivered them the next morning. A couple of students did nothing but inventory the supplies so they knew when to order more. Within one week, this classroom and this teacher developed this scheme for the supplies—which was nothing short of miraculous, fast school improvement."

Good things accrued from the supply closet experience, and Barth believes that good things would accrue from other complaints if more complainers would be given more responsibility for more problems. "We spent less money, the complaints ended, and the teacher got tremendous recognition," he says. "The point is: First, take somebody who is complaining and welcome those complaints as good news. Give that person the key—both metaphorically and practically.

"Second, you have to trust that person even though he may have given no reason that he can be trusted. Third, you have to back him up for a year, no matter what he does, and fourth, when good things happen and lots of praise comes, it all goes to that person."

When the leader of an educationally productive school shares his or her authority, everyone shares responsibility for the outcome, Barth is careful to point out. "We accept responsibility," he notes. "It is much less terrifying when there is a 'we' rather than just an 'I.'"

Barth emphasizes the concept of shared responsibility precisely because, as he points out, many principals believe that if someone else assumes leadership responsibility, that person alone should be wholly responsible for outcomes and for any problems that arise. "Many principals almost take delight in seeing problems come up when others lead," he adds. "They take an attitude that says: 'She thought she could do a great job but now she is getting all these complaints from parents.' It's a type of 'gotcha' attitude that is very unproductive."

Instead, he invites teachers and administrators to unlock their personal visions of a productive school. "Let's dream a bit," he says. "Don't worry that 'they' will never let us do this, or all the 'what ifs' or 'yes, buts.' Let's be inventors for just an hour a day.

"When we do that, some very precious and new thinking bubbles up. Every school harbors the capacity for grownups and students to be inventors, to truly and authentically engage in some paradigm shifts.

"Our school culture doesn't reward this type of thinking and dreaming," Barth points out. "There hasn't been protection for it. There hasn't been any expectation of it, yet it lies there, waiting. We need a kind of leadership which can find and unlock this rich capacity for invention that resides in not only the adults but in the kids."

This capacity for invention is key, he maintains, to any vision of productive schools—and is the threshold for creative curriculum, engaged learners and adults, and productive involvement of the community outside the school. "Residing in the stakeholders of schools—parents, teachers, and students—are wonderfully fresh, inventive ideas about how to change things that aren't working very well yet and that don't, by and large, cost more money. The snowball policy didn't cost more money. We could have hired five aides to police the playground during a snowfall, but we didn't need aides once we developed an enlightened policy.

"All it takes," he concludes, "is confidence that there is a better way—and some courage to go that way. Together we can find it—and when we do, we have found the path to a productive school."

When the leader of an educationally productive school shares his or her authority, everyone shares responsibility for the outcome.

The Changing Role of Principals: An Interview With Philip Hallinger

Anne Turnbaugh Lockwood

Philip Hallinger is a Professor in the Department of Educational Leadership in Peabody College, Vanderbilt University, where he also directs the Vanderbilt International Institute for Principals. Formerly, Hallinger was a school teacher and administrator, and he has served as director of two different leadership centers in the United States. Currently he holds a joint appointment as Professor in the Center for Leadership Research and Development at Chiang Mai University, Thailand, which he helped establish as a Fulbright Scholar in 1992. Hallinger's interests span research and practice in the field of educational leadership. He has published over 80 articles and 5 books on principal leadership, managing change, leadership development, school culture, and school restructuring and improvement. His most recent interests focus on the use of problem-based learning for educational leaders and on the impact of national culture on leadership. In addition to his work in education, Hallinger is a contributing editor on international and political affairs for The Nation, *a national English-language daily in Thailand.*

Do principals have direct effects on student achievement? Should we insist that the principal's role is primarily that of instructional leader—although the rhetoric and research of restructuring suggests that collaborative leadership and strong community among principals and teachers are key levers to increased achievement?

Part of the confusion about the principal's role in restructuring schools and school improvement emerges from a long history of significant shifts in the principalship, Philip Hallinger maintains—changes that have evolved to the point where principals commonly are believed to have a very strong impact on student achievement. If student achievement is not where parents and teachers believe it should be, it is not unusual to fault the principal for weak leadership. But are these perceptions correct?

To clarify the confusion, Hallinger takes a brief historical tour of the principal's role since the 1950s to the present. "In the 1950s," he begins, "principals were viewed very much as administrators who simply managed the schools. In the 1960s, with the urbanization of education, principals began to be viewed as street-level bureaucrats, that is, people who had to get things done on the ground level even as large-scale policies were being developed and implemented by the government agencies."

The significant federal efforts focused on curriculum in the 1960s and early 1970s, he says, brought the term "change agent" into the vernacular—along with heightened expectations for principals. The school effectiveness literature of the early 1980s, the classroom effectiveness literature, and the publication of *A Nation At Risk*, with its dire broadcast of the grim condition of American education, all synergized as a powerful and unrelenting spotlight focused on the principal.

"*A Nation At Risk* created a context in which there was a heightened perception of need for school improvement," Hallinger explains. "Both the school effectiveness research and the classroom effectiveness research identified principals as keys to schools' ability to implement the kinds of changes that would meet this need."

These twin streams of research urged principals to accept a new and expanded role as instructional leaders—along with maintaining their previous role as school managers. "Principals were now viewed as key to creating conditions in the school as a whole that would support improvement in student achievement," Hallinger points out. "This raised the instructional leadership role of the principal from the background to the foreground. In contrast to the prior era, when principals were talked about as change agents, that role focused on managing the policy change process in the school, not exerting a leadership function over instruction."

The shift from change agent to instructional leader was significant, he maintains. Principals began to be overwhelmed by the volume and diversity of their responsibilities coupled with high public expectations. "In the early 1980s," Hallinger explains, "school systems, counties, and state departments of education geared up to try to provide principals with the knowledge that was thought to be important at that time."

But the efforts of state departments of education and leadership academies took the school and classroom effectiveness research far past its findings, he says—and ended up institutionalizing unrealistic expectations of principals as prime movers in effecting student achievement. Not surprisingly, other researchers began to critique the school effectiveness research and the resulting advocacy movement based on the research.

Principals As Instructional Leaders: Mixed Reviews in the 1980s

To focus the criticism of the school effectiveness research, Hallinger refers to the work of Larry Cuban, who remained a skeptic about principals shifting into roles as strong instructional leaders. "Cuban wrote an excellent book, *The Managerial Imperative*, in which he claims that part of the 'genetic code' of the principalship actually leads principals away from being instructional leaders," Hallinger notes.

Just at the time that leadership academies and state departments of education were establishing their programs for principals in the late 1980s, Hallinger points out, an unforeseen turn of events had a major impact—yet again—on the shifting roles of principals. "In the late 1980s and early 1990s we had the emergence of the school restructuring movement. It started with a completely different set of assumptions than those held by the school and classroom effectiveness literature."

These assumptions, he says, necessitated a reexamination of the principal's role as instructional leader. "The restructuring movement, in essence, questioned whether that role for principals was valid since it focused all the attention on an individual at a time when restructuring advocates believed serious problems in schools were both a lack of professionalism and an opportunity for teachers to grow in their work. Leaders in this movement emphasized the importance of a community of leaders in schools."

Part of the importance of community for school staff was the belief that responsibility should be shared—as should accountability—for results or student outcomes. "If the principal is viewed as the only one who can solve this problem," Hallinger notes, "this runs counter to what restructuring advocates see as the future needs of schools."

The result for principals, he says, has been total confusion about their roles. "Currently, there is a momentum toward teacher leadership, toward shared leadership from many people within the school and community. Yet, there is also a whole cadre of principals who have been educated in the belief that they should be instructional leaders."

Context and Temperament

Hallinger urges practitioners to consider the importance of the context of their own schools and districts when making school improvement and school restructuring decisions. "The effective schools researchers found urban elementary schools that served poor kids and identified characteristics that distinguished these schools from other similar schools in terms of their impact on learning."

But a key problem with the research, he points out, centers on the extent to which the original, limited findings were generalized to a multitude of settings very different from the original sites studied—such as suburban elementary and high schools.

Another key contextual consideration is the role that individual temperament plays in the formation of a principal's leadership style. "The leadership of a principal moving into an inner-city school that is experiencing failure that is appropriate and effective for that setting might be quite different from the leadership required by a suburban or urban school that is experiencing success," Hallinger notes. "If you look more closely at the interaction between context, leadership, and personality, you see that there is not one leadership style that is likely to be effective across a wide range of contexts."

The efforts of state departments of education and leadership academies took the school and classroom effectiveness research and ended up institutionalizing unrealistic expectations of principals as prime movers in effecting student achievement.

What successful principals do, is juggle the interaction between the district and school context, resources available to them, and their own leadership styles.

What successful principals do, he believes, is juggle the interaction between the district and school context, resources available to them, and their own leadership styles. "The first generation of the school effectiveness studies were primarily concerned with the question: Do principals make a difference? The researchers simply took a measurement of leadership and a measure of student achievement. They weren't really trying to study how principals make a difference in teaching and learning.

"By and large, their findings were inconsistent. This is not really so surprising, however, since you wouldn't expect to find positive direct effects on student learning from principals; they don't teach students."

The second generation studies, including studies conducted by Hallinger, asked: What do principals do to have an impact on achievement? "We know that principals create conditions in which teachers can teach more effectively and where students can learn better," explains Hallinger. "When that information is included in a study, and the study focuses on how one hundred different principals work in relationship to curriculum, to goals, and to their staff's capacity for change—and then the study asks how those factors carry over into student learning, we find much more consistency in the results.

"These studies," he adds, "find differences among principals in terms of their ability to motivate, to create social structures, and work with social networks within the school. We didn't find any particular kinds of organizational structures that appeared more frequently than others, such as site counsels or shared decision making. However, the principal's ability to create a sense of community with a school and translate shared intentions into practice was a consistent finding of effective leadership—although the means by which community was achieved varied."

The Future for Principals and Leadership

Where are principals today? What is their current role? What does Hallinger predict for the future roles of principals? How might their leadership styles evolve into yet something else?

In his reply, Hallinger points to the sluggish pace of change in schools. "From 1982 to 1994, the school and classroom effectiveness findings went from research findings to a kind of intellectual orthodoxy. While in some quarters that thinking is dismissed, in many places in the country school effectiveness is still viewed with credibility. I am not saying that it shouldn't be, necessarily. But now that school restructuring, shared decision making, communities of learners, and other concepts have entered our educational culture, there is a belief that the tenets of effective schools and instructional leadership are no longer there. To the contrary: These beliefs have been highly institutionalized over a 20-year period."

One unfortunate aspect of that institutionalization of beliefs, according to Hallinger, is that people don't realize that they hold a set of unexamined beliefs. "Today, there is a shift away from the effective schools vision of the principalship, but it hasn't been as radical as some people believe."

Positive carryovers from the belief that the principal is the school's instructional leader, he notes, include the elevation of the principal's role from manager to leader. "There is much more recognition today that principals are ultimately responsible for the education of the children in the school. Even in schools where there is extensive shared decision making, my research and the research of others suggests that at least in the early and midterm stages of schools moving toward shared decision making, it is the principal who plays the key role in keeping the staff focused on the education of children and why the school was engaging in shared decision making.

"We see a translation of how the principal's role has evolved from the effective schools notion of the principal setting goals for the school and being highly involved in aspects of curriculum and instructional improvement to the transformational leadership model. Here principals provide leadership through increasing the capacity of teachers—individually and collectively—to determine their common destiny and move the school forward as a context for learning."

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ANNOUNCING. . .

The North Central Regional Educational Laboratory's (NCREL) 1997-98 Leadership Academy

Building the Future of Education Through Leadership

Why: Why an academy for school leaders? Research tells us that without effective leadership, there is little or no improvement in learning and school climate for students and teachers.

What: This Leadership Academy is a leadership development program for practicing and aspiring school leaders. Its goal is to support school leaders in undertaking and implementing effective schoolwide improvement and reform. The Academy will feature nationally known scholars and experts such as **Willard R. Daggett**, Director, International Center for Leadership in Education; **Jon Saphier,** Executive Director, Research for Better Schools; **Linda Darling-Hammond**, Co-Director, National Center for Restructuring Education and Schools; **Al Bertani**, Co-Director, The Center for School Improvement, The University of Chicago; and others. The Academy will also provide a special technology strand that will expand your leadership knowledge and prepare you for the 21st century.

When: August 4–8, 1997

Where: University of Chicago Gleacher Center
450 N. Cityfront Plaza Drive
Chicago, Illinois

Information: For rates and further information, please call Donna Wagner at NCREL (630) 218-1068 or send her an e-mail, dwagner@ncrel.org.

Reflecting on Current Practices: Preliminary Characteristics of Productive Schools

Is my school implementing practices that optimize outcomes? What changes can we make in our curriculum and instructional program that will lead to greater productivity? How can we organize and structure our school to improve teaching and learning, that is, enhance productivity? How can the external environment help to build our capacity for greater productivity?

As you reflect on your school practices, you may find the following list of descriptive characteristics helpful. This list represents preliminary research-based traits of productive schools. We have assembled this list to stimulate your thinking about what you are doing and what you might consider doing in the future to increase learning and achievement in your school, without a boost in resources. We invite your comments. At our fall *Productive Schools Seminar* (October 23, 1996), we will convene researchers and practitioners to discuss what is meant by productive schools, identify challenges, and explore strategies for making schools more productive. After the Seminar, we will amplify and refine our list of characteristics of productive schools. We invite and welcome your comments.

Productive schools have:

✓ **A clearly defined academic focus and vision for learning.** Productive schools focus their resources and energies on students and learning. Guided by a shared vision of high quality learning, the school's curriculum, instruction, scheduling, staff development, and assessment are oriented towards one purpose: heightened student learning and achievement. Administrators and teachers coordinate school improvement efforts into cohesive activities that enhance the quality of student learning. When making decisions, staff in productive schools ask: How will this benefit student learning?

✓ **Relatively stable goals.** A productive school community recognizes that change and improvement require sufficient time and concerted effort, supported by appropriate resources. Having embraced a set of goals for learning, the productive school remains focused and resists the tendency to adopt the flavor of the month, which results in multiple, diffuse goals. Unproductive schools can resemble Christmas trees—except instead of being crammed with ornaments, they are crowded with programs and projects. Unfortunately, some of these programs and projects may conflict with one another and drain existing resources that could be more profitably focused on the goal of improved student learning and academic achievement.

✓ **Rigorous, challenging learning for all students that engages them with the school and its academic mission.** A productive school provides challenging curriculum and instruction for all children. Teachers emphasize learning experiences that require students to use higher order thinking, develop in-depth understanding of concepts, and apply what they learn to real-life, authentic problems. Teachers hold high expectations for students and consistently encourage them to work toward high academic standards.

✓ **Clear and focused standards and incentives for academic performance.** In productive schools, challenging academic standards guide the learning program and create a broad framework for what students should know and be able to do. Professional development, testing and assessment, and accountability systems are aligned with these standards. Deregulation provides much-needed autonomy so that schools can design their own standards-based programs. Incentives and rewards for academic excellence and sanctions for low achievement underscore the school's fundamental enterprise—learning—and encourage local schools and communities to abandon ineffective practices, reallocate resources to high-performance designs, and assume responsibility for student achievement. Productive schools are serious about results and hold themselves accountable for increasing learning and academic achievement.

✓ **Sufficient time and resources to build teacher knowledge and expertise in pedagogy and subject areas.** Productive schools are characterized by a premium placed on high-quality staff development. Teachers have multiple opportunities for sustained, schoolwide staff development that expands their knowledge of subject matter and pedagogy. Adequate resources support formal and informal staff development. Staff development activities are sustained over time with a clear focus rather than offered as one-shot, disconnected inservices. As part of the productive school's focus on improved student learning, these staff development experiences give teachers time to gain new knowledge, reflect on current and proposed activities, apply new concepts and strategies, and receive coaching and feedback from peers and mentors. School structures support teacher collaboration, particularly team curriculum planning and opportunities to share and improve practices.

- ✓ **A school climate that combines academic press and personalism.** Productive schools have clear, strongly-held norms about what students should learn. They demand that all students follow a rigorous, challenging curriculum. The caring, supportive environment of the productive school makes it a place where students are personally known and in which teachers have opportunities to interact and collaborate to improve their instructional practices.

- ✓ **High-performance management of student learning at the local school level.** Productive schools funnel a higher percentage of their resources directly into the classroom, using categorical funds flexibly and strategically. Schools increase time for learning through the use of tutoring, year-round schooling, technology, and flexible scheduling. Teachers work to enrich and strengthen course content and to monitor the outcomes of their teaching carefully and frequently. Where appropriate, teachers tightly organize and manage instruction to boost student achievement through the strategic use of specific programs (e.g., Slavin's Success for All).

- ✓ **Structural conditions that promote professional community (e.g., shared governance, interdependent work structures, deregulation, small school size, and parent involvement across a broad range of school affairs).** Productive schools create opportunities for teachers to collaborate and to help one another achieve high levels of student learning. Collaborative leadership and shared governance empower teachers to influence resource allocation, school policies, and classroom instructional practices. Interdependent work structures encourage collective focus and shared responsibility for student learning. Small school and class size enhances communication and trust.

- ✓ **External agencies and networks that provide support in achieving high levels of student learning.** Highly productive schools enjoy the support of their districts, parents, and other citizens; businesses; health and human service agencies; neighboring institutions of higher education; and state and federal agencies. External agencies help schools focus on and improve the quality of student learning through setting high academic standards, providing sustained staff development to enhance teacher knowledge and skills, providing fiscal support to ensure appropriate quality and quantity of the resources for teaching, and deregulating decision making to increase autonomy and local accountability. Parents promote their children's achievement by supporting learning at home, ensuring that their children are ready for school, and by participating in a broad range of school activities.

- ✓ **High levels of student achievement.** In productive schools, the majority of the students perform well on tests of academic achievement and performance-based assessments. Productive schools attain high levels of student performance cost effectively. In environments characterized by flat resources, these schools reconfigure their existing resources, adopt promising instructional practices and school designs, and invest adequately in professional development.

These characteristics are based on the following resources (please refer to page 33 for additional resources on productive schools):

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NEW LEADERS FOR TOMORROW'S SCHOOLS

Productive Schools: Perspectives From Research and Practice

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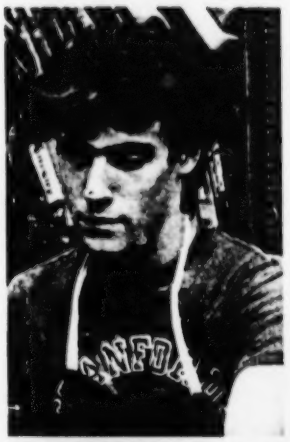

NCREL's Center for School and Community Development supports schools and communities as they undertake continuous, sustainable school development to improve learning. The Center identifies and organizes research information and best-practice models to help schools and communities improve their planning, decision making, and action so that students achieve at high levels. The Center also provides technical assistance, training, and consultation to help schools and communities invest in continuous growth while meeting today's needs.

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